

SnapPlus 14.0

Solutions to NM planning problems



August 22, 2014

beta



SnapPlus 14.0 Beta

- Download from snapplus.wisc.edu
- Beta update: Sept 3rd
- Final release target date: Sept 12th

Last XP Release

Allocate all my manure!

Move data between databases?

Custom fertilizer blend for my farm.

My recs are too high...

Can't get rid of those #?!? CAFO w restrictions?

STired not shaken!!!

What's behind the recs???

Solving some NM Problems!!!

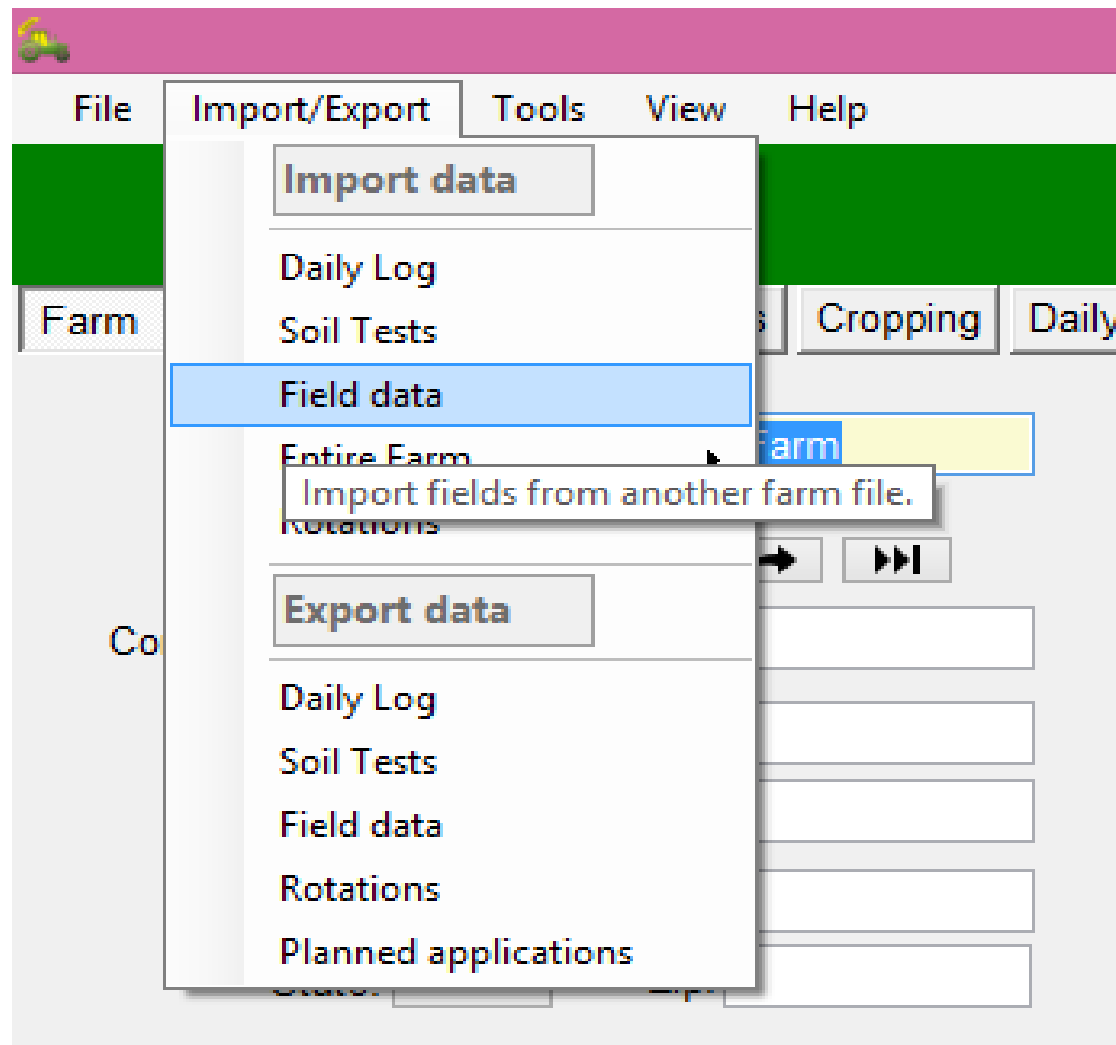


Thing to know about 14.0

- 14.0 means 2014 initial release
- 14.0 Beta can run side-by-side with 2.0
- 2.0 farm databases auto convert to/from 14.0
- Last Windows XP release
- New tools for moving data between farms
- New tools for allocating nutrients based on needs
- CAFO updates: W soil, CAFO Winter Spreading
- Recs too high: Explain, GDD Override, Neg Recs
- Soils and STIR data on snapplus.wisc.edu



Import/Export farm data



Import

Includes fields, soil tests,
cropping data

Optionally
include
applications

Prefix
added to
field
names

Set crop
years to
import

Import Fields

C:\SnapPlus2\MySnapPlusData\A Test New Farm.snapDb Select Farm To Import

Field selection method

☒ All ☐ Fields ☐ Subfarms

Application selection

☒ Nutrient ☒ Fertilizer ☒ Lime

Unselected Selected

> >> < <<

08
09
10
11
12
13

Farm Prefix
MyFarm
(required)

Field Prefix

☐ Subfarm
☐ Fsa Tract
☐ Farm prefix
☒ None

Crop Years

Start Year
2000

End Year
2025

Accept Cancel

Export

The screenshot shows a software window titled "Export Fields" with a tractor icon. It contains three main sections: a file selection area, a section for selecting applications to export, and a section for selecting crop years. Callouts provide additional context for each section.

Export Fields

Select the file location and name to receive the export data

Select which applications to export

☐ Nutrients ☐ Fertilizers ☐ Lime

Records

Select crop years to export

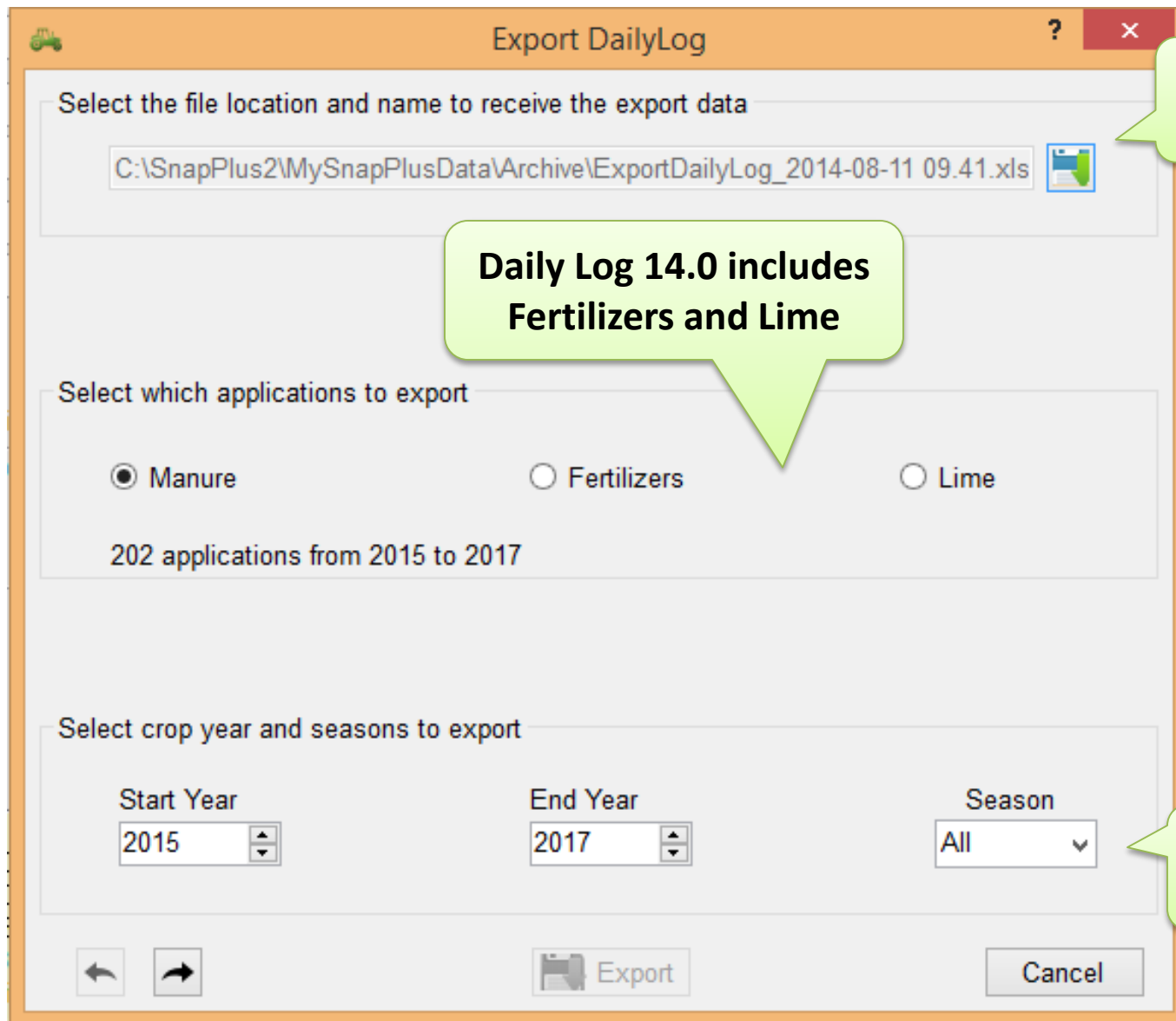
Start Year: 2014 End Year: 2014

Navigation buttons: Previous, Next, Export, Cancel

Callouts:

- Creates new SnapPlus farm database** (points to the file selection area)
- Includes field, soil test, cropping data from open database** (points to the file selection area)
- Optionally include applications** (points to the application checkboxes)

Export Daily Log



The screenshot shows a software window titled "Export DailyLog" with a tractor icon in the top-left corner. The window contains three main sections for configuring the export. The first section, "Select the file location and name to receive the export data", has a text field with the path "C:\SnapPlus2\MySnapPlusData\Archive\ExportDailyLog_2014-08-11 09.41.xls" and a file icon button. The second section, "Select which applications to export", features three radio buttons: "Manure" (selected), "Fertilizers", and "Lime". Below these is the text "202 applications from 2015 to 2017". The third section, "Select crop year and seasons to export", includes three dropdown menus: "Start Year" (set to 2015), "End Year" (set to 2017), and "Season" (set to All). At the bottom are navigation arrows, an "Export" button with a folder icon, and a "Cancel" button. Three green callout boxes provide additional information: one points to the file path field with the text "Export to Excel", another points to the "Fertilizers" radio button with the text "Daily Log 14.0 includes Fertilizers and Lime", and a third points to the "Season" dropdown with the text "By Season too".

Export DailyLog

Select the file location and name to receive the export data

C:\SnapPlus2\MySnapPlusData\Archive\ExportDailyLog_2014-08-11 09.41.xls

Select which applications to export

☒ Manure ☐ Fertilizers ☐ Lime

202 applications from 2015 to 2017

Select crop year and seasons to export

Start Year: 2015 End Year: 2017 Season: All

Export Cancel

Export to
Excel

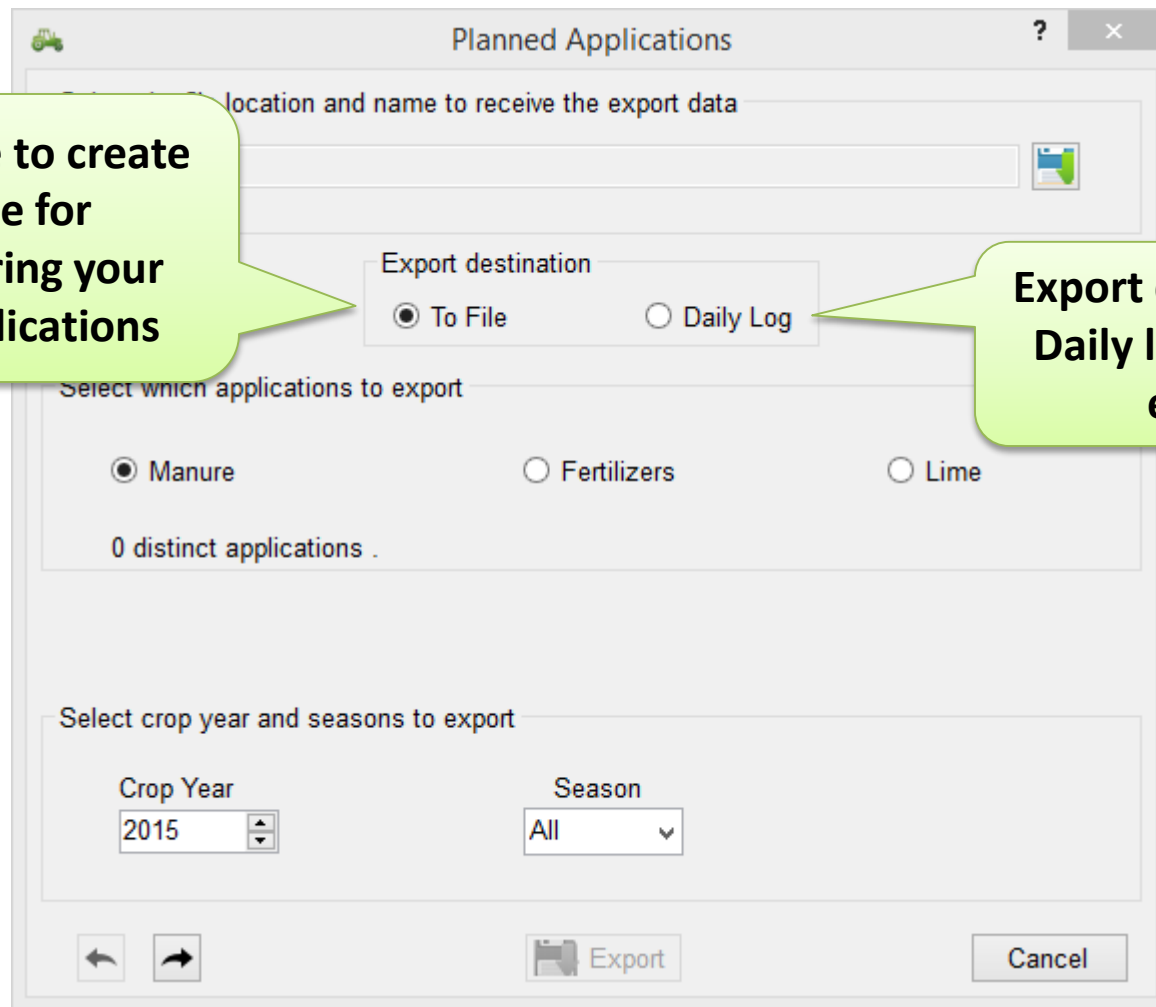
Daily Log 14.0 includes
Fertilizers and Lime

By Season
too

Export Planned Applications

Export to a file to create a template for editing/entering your daily log applications

Export directly to the Daily log screen for editing.



The image shows a software window titled "Planned Applications" with a question mark icon and a close button. The window contains several sections for configuring an export. The first section is for specifying the location and name to receive the export data, with a text input field and a file explorer icon. The second section, "Export destination", has two radio buttons: "To File" (selected) and "Daily Log". The third section, "Select which applications to export", has three radio buttons: "Manure" (selected), "Fertilizers", and "Lime", followed by a text field showing "0 distinct applications". The fourth section, "Select crop year and seasons to export", has a "Crop Year" dropdown set to "2015" and a "Season" dropdown set to "All". At the bottom, there are navigation arrows, an "Export" button with a file icon, and a "Cancel" button.

Planned Applications

location and name to receive the export data

Export destination

☒ To File ☐ Daily Log

Select which applications to export

☒ Manure ☐ Fertilizers ☐ Lime

0 distinct applications .

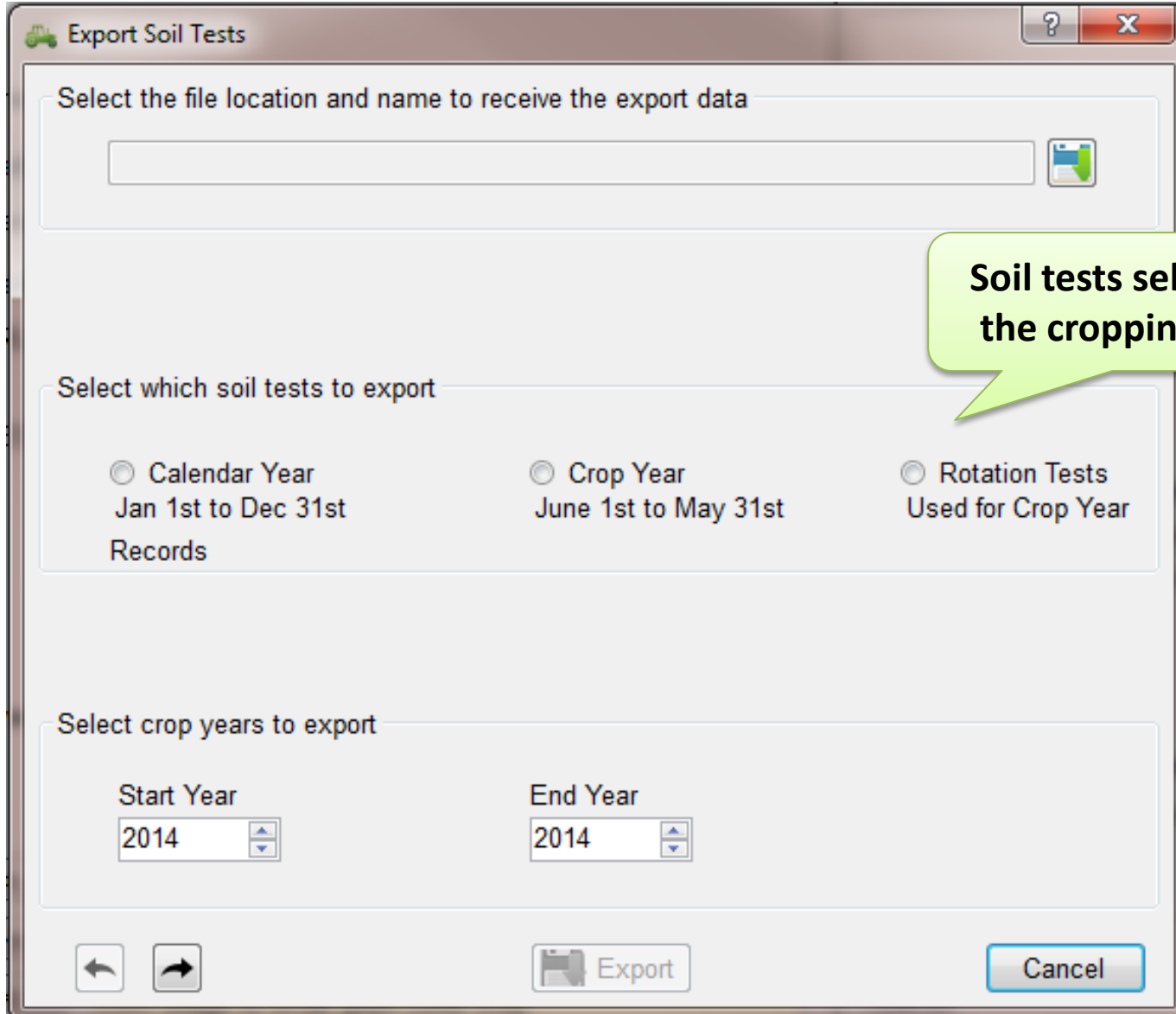
Select crop year and seasons to export

Crop Year: 2015

Season: All

Export Cancel

Export Soil Tests



The dialog box is titled "Export Soil Tests" and features a toolbar with a question mark and a close button. It contains three main sections: a file selection section at the top, a section for selecting soil tests to export in the middle, and a section for selecting crop years at the bottom. A green callout bubble points to the "Crop Year" radio button.

Export Soil Tests

Select the file location and name to receive the export data

Select which soil tests to export

☐ Calendar Year
Jan 1st to Dec 31st
Records

☐ Crop Year
June 1st to May 31st

☐ Rotation Tests
Used for Crop Year

Select crop years to export

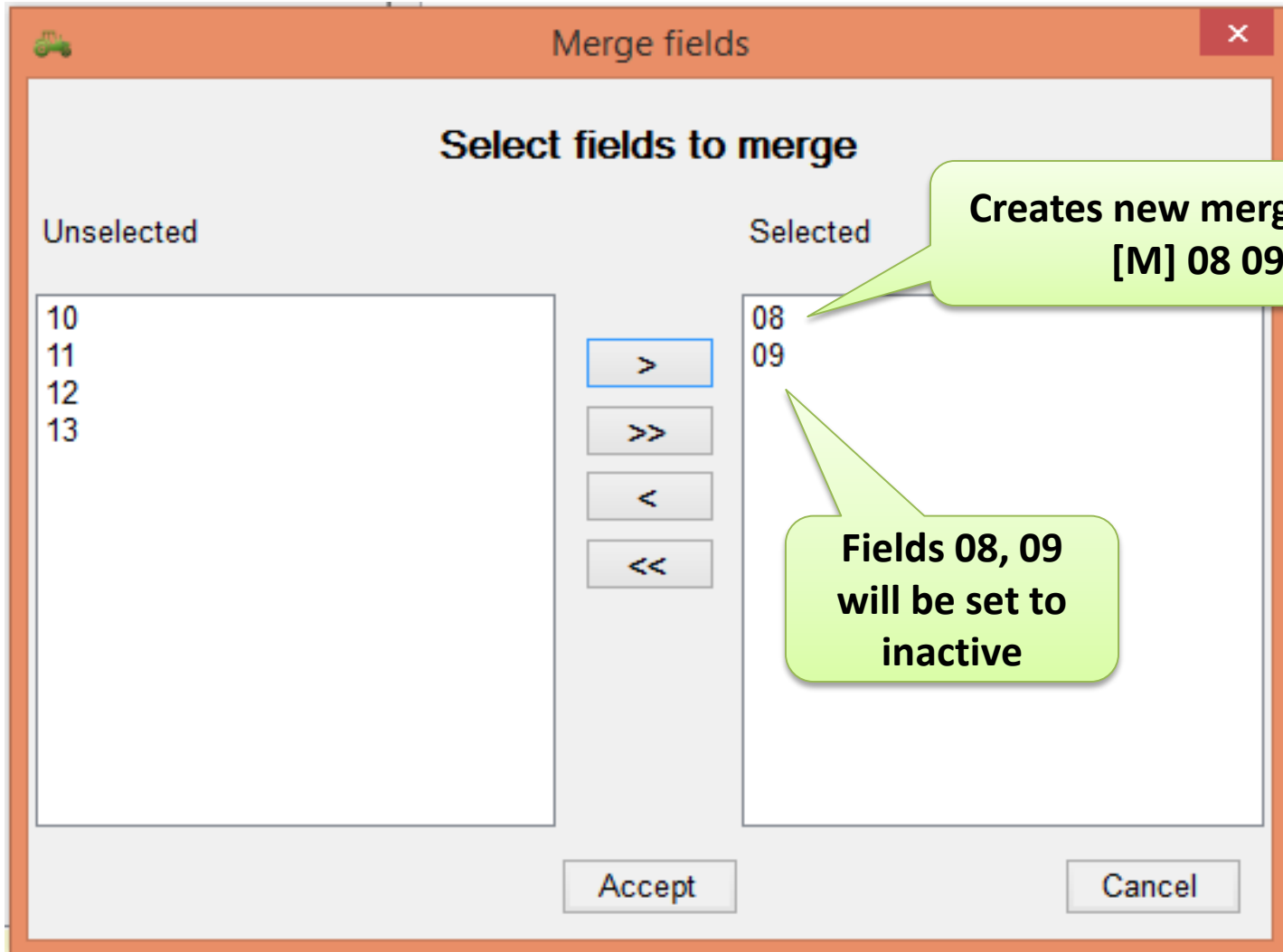
Start Year
2014

End Year
2014

Export Cancel

**Soil tests selected on
the cropping screen**

Merge Fields



The image shows a software dialog box titled "Merge fields" with a close button (X) in the top right corner. The dialog is divided into two main sections: "Unselected" on the left and "Selected" on the right. In the "Unselected" section, a list contains the numbers 10, 11, 12, and 13. In the "Selected" section, a list contains the numbers 08 and 09. Between these two lists are four buttons: a single right arrow (>), a double right arrow (>>), a single left arrow (<), and a double left arrow (<<). The ">" button is highlighted with a blue border. At the bottom of the dialog are two buttons: "Accept" and "Cancel".

Select fields to merge

Unselected

10
11
12
13

>
>>
<
<<

Selected

08
09

Creates new merged field
[M] 08 09

Fields 08, 09
will be set to
inactive

Accept Cancel

Manure Allocator

Allocate for
one year

Manure Allocator

Crop Year
2015

Populate unselected list with:
☒ Fields ☐ Subfarms ☐ Groups

View field N, P2O5, K2O needs
☒ All ☐ Unselected ☐ Selected

Unselected Selected

Select fields for applications

UW Adj Recommendations
(+) values have exceeded the UW recommendations

field needs: acres (N, P2O5, K2O, crop Abbreviation); field name

<input checked="" type="checkbox"/>	4	(190, 40, 240, Cs1 [ConC]); RM 25-26
<input checked="" type="checkbox"/>	8	(190, 0, 45, Cs1 [ConC]); RM 1
<input checked="" type="checkbox"/>	6	(190, 0, 240, Cs1 [ConC]); RM 24
<input checked="" type="checkbox"/>	30	(190, 0, 95, Cs1 [ConC]); RM 38
<input checked="" type="checkbox"/>	3	(145, 80, 185, Cs1 [ConC]); RM 13-15
<input type="checkbox"/>	6	(70, 30, 90, Cg); RM 8
<input type="checkbox"/>	13	(20, 0, 215, OgAs); RM 23
<input type="checkbox"/>	6	(20, 0, 110, OgAs); RM 36
<input type="checkbox"/>	16	(20, 0, 55, OgAs); RM 43
<input type="checkbox"/>	8	(20, 0, 215, OgAs); RM 43
<input type="checkbox"/>	15	(20, 0, 215, OgAs); RM 43
<input type="checkbox"/>	1	(20, 0, 55, OgAs); RM 43

Select All OK

Show NPK needs
in popup

+, ++, +++ would
indicate the
magnitude of
over application

Manure Allocator

Manure Allocator

2015 - Adjusted UW Recommendations (for selected fields)

	N	P2O5	K2O
Minimum:	145	0	45
Average:	181	24	161
Maximum:	190	80	240

Manure sources
(2, 3, 5); Dairy Semi-S

Spreader Information

Capacity (tons)	Min Rate (tons/acre)	Total Available (tons)
5	10	2475

Selected manure: Dairy Semi-Solid
Available: 2,475 Tons

RM 1	720 Tons
RM 13-15	210 Tons
RM 24	540 Tons
RM 25-26	360 Tons
RM 38	not enough manure to satisfy needs.

Applied: 1,830 Tons
Remain: 645 Tons

Close

Used to calculate
the application
Loads

Allocate one source
at-a-time

Per field
allocation

Explain Recs

Explain Nutrient Recommendations

Explain details behind the nutrient recommendations.

Field

County

Acres

Slope

Tiled

GDDOver

10

Columbia

8.3

21

☒

☐

AgSoil

Symbol

Texture

Group

YieldPot

AvailWater

Drainage

Bedrock

Temp

CHANNAHON

CaE2

Silt Loam

L

M

L

MW

S


M

	2011	2012	2013	2014	2015	2016	2017
Crop	Corn grain	Alfalfa seeding	Alfalfa established	Alfalfa established	Alfalfa established	Corn grain	Corn silage
Irrigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crop Demand PK	1	2	2	2	2	1	2
Rot Demand PK	2	2	2	2	2	2	2
Soil Test P-K	21-54	21-54	21-54	21-54	6-205	6-205	6-205
Soil Interp P-K	Opt-VL	Opt-VL	Opt-VL	Opt-VL	VL-VH	VL-VH	VL-VH
Soil OM%	3.7	3.7	3.7	3.7	3	3	3
Eff Yield Potential	M	M	M	M	M	M	M
Removal	x-60-45	x-40-180	x-65-300	x-65-300	x-65-300	x-60-45	x-65-145
Recommendation	145-60-90	0-40-235	0-65-355	0-65-355	0-105-75	145-100-10	145-105-35

View Dump

Close

Show Help >>



Explain

Press this on Cropping

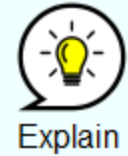
GDD Override

Explain Nutrient Recommendations



Explain details behind the nutrient recommendations.

Set on Fields
using Groups



Field	County	Acres	Slope	Tiled	GDDOver
2	Marathon	3	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>

AgSoil	Symbol	Texture	Group	YieldPot	AvailWater	Drainage	Bedrock	Temp
ALTDORF	AbB	Loam	L	H	M	MW		F

	2014
Crop	Corn grain
Irrigation	<input type="checkbox"/>
Crop Demand PK	1
Rot Demand PK	1
Soil Test P-K	65-45
Soil Interp P-K	EH-VL
Soil OM%	3
Eff Yield Potential	M
Removal	x-55-40
Recommendation	145-0-85

Yield potential
changed to M

View
Dump

Close

Show Help >>

Negative Rec Adjustment

Rotation Wizard Calculate all years Add/Delete Years Explain

all):	2013	2014	2015	2016	2017
rop:		Corn grain	Corn grain, baled stalks	Alfalfa/Brome	Alfalfa
oal:		71-90	71-90/1.1-2	0-0	0-0
uge:		Fall Chisel, disked	Fall Chisel, disked	None	None
ate: 30		2012-10-30	2012-10-30	2012-10-30	2012-10-30
Rec:	NOT MET	NOT MET	NOT MET	NOT MET	NA
nfo: ed		<input checked="" type="checkbox"/> Irrigated 0.05/MRTN	<input type="checkbox"/> Irrigated 0.05/MRTN	<input type="checkbox"/> Irrigated	<input type="checkbox"/> Irrigated
tes:					
cre)	P2O5 K2O	N P2O5 K2O	N P2O5 K2O	N P2O5 K2O	N P2O5 K2O
ion:	0 0	190 0 25	170 0 75	0 0 0	0 0 0
tra:	0 0	- 0 0	- 35 50	- 41 0	- 41 0
ion:	0 0	190 0 25	170 0 25	0 0 0	0 0 0
edit:	-				
edit:	-				
ure:	0				
zer:	0				
ons:	0				
rec:	0				
l PI:	1				
PI:	0.9				
PI:	0.2				

Nutrient Recommendation Details ×

Field: 08 Year: 2015

	N	P2O5	K2O
Corn grain recommendation	190	0	25
Corn stover recommendation	0	0	50
Adjustments to recommendation	-20	0	0
UW Recommendation	170	0	75

Accept
Cancel

No explanation needed

CAFO W soil restriction

Subfarm: Show all fields. * Farm name: TestCAFO.snapDb
 Group: Show all fields. Location: Z:\Downloads

Farm Fields Soil Tests Nutrients Cropping Daily Log Reports

PDF X Save Folder

Nutrient Management Plan
 ... Narrative and Crops
 Compliance Check
 ... Field Data and 590 Assessment
 ... Manure Tracking
 ... Spreading and NM Sorted By Crop
 + CAFO
 + Farm Management
 + Soil Loss
 + Water Quality
 + Data Dump

Field Name	Year	Problem
DC09	2014	Overapplication of manure N of 48 lbs N/acre.
DC10	2012	Overapplication of manure N of 32 lbs N/acre.
DC11	2015	Overapplication of manure N of 48 lbs N/acre.
DC12	2015	Overapplication of manure N of 48 lbs N/acre.
DC13	2011	Overapplication of manure N of 20 lbs N/acre.
DC14A	2013	Overapplication of manure N of 25 lbs N/acre.
DC14B	2011	Overapplication of manure N of 20 lbs N/acre.
DC15	2011	Overapplication of manure N of 20 lbs N/acre.
GP-02B	2011	NR 243 prohibits surface applying liquid or solid manure on a CAFO between Feb 1 to Mar 31 when there is more than 1 in. of snow or if the ground is frozen.
GP-02B	2011	Solid manure cannot be applied to slopes greater than 2% in the winter on a CAFO unless the field is worked on the contour.
GP-11	2011	Manure application on a field which may have groundwater within 2 feet of the surface. A planner still needs to acknowledge applications will be verified in the Field Restriction for this field.
GP-11	2012	Manure application on a field which may have groundwater within 2 feet of the surface. A planner still needs to acknowledge applications will be verified in the Field Restriction for this field.
GP-11	2013	Manure application on a field which may have groundwater within 2 feet of the surface. A planner still needs to acknowledge applications will be verified in the Field Restriction for this field.
GP-11	2014	This field has fall or late summer N applications in excess of what is allowed for soils with a high N-leaching potential. Overapplication of 30 lbs N/acre.
GP-11	2014	Manure application on a field which may have groundwater within 2 feet of the surface. A planner still needs to acknowledge applications will be verified in the Field Restriction for this field.
GP-11	2015	Manure application on a field which may have groundwater within 2 feet of the surface. A planner still needs to acknowledge applications will be verified in the Field Restriction for this field.
GS1	2013	One or more applications are not completed with 'none' or 'no till' selected on the cropping screen for 2013

Every year has W restriction message

CAFO W soil acknowledgement

File Import/Export Tools View Help

Subfarm: Show all fields. *
Group: Show all fields.

arm Fields Soil Tests Nutrients Cropping

Fields Subfarms Groups

Right-click on column headers for single or multi-cell editing

+ -

ALL	Field Name	A	Sub	Fsa	Fsa
		c		Tract	Field
	GP-08				
	GP-09				
	GP-10	✓	P...		
▶	GP-11	✓	P...		
	GS1	✓	G...		
	GS2	✓	G...		
	H1	✓	H...		
	H1A	✓	H...		
	H1B	✓	H...		
	H2	✓	H...		

One time check off per field

Setup Field Restriction Features

Spreading Restriction Features for Field GP-11

Note: If any part of the field has an N restricted soil or is in a SWQMA, then it should be marked as such below.

Field soils: Critical-ScB; Predominant-ScB

Fall N Restriction

N restricted soil other than selected soils: None

N Restriction code: W

☐ Acknowledge use of proper techniques for W soil manure application

[N Restriction definitions](#)

Field Restrictions

☐ Field in 590 SWQMA ☐ Field in CAFO SWQMA

☐ Drinking water well within 100ft of field edge

☐ Local prohibitions for winter applications [Restriction maps](#)

☐ Slope restriction for winter applications

Conduits to groundwater within 200ft downslope of field

☐ Sinkholes

☐ Well

☐ Fractured bedrock at surface

☐ Non-metallic mine (a gravel or sand mine for example)

☐ Other direct conduit to groundwater

[Restriction maps](#) ☐ GDI

[Restriction definitions](#) [What is...](#)

Below Field Slope to Water (%)	Distance to Perennial Water (ft)	Restriction Features
2.1...	10...	
2.1...	30...	
2.1...	0 - ...	yes
2.1...	30...	yes
6.1...	10...	
6.1...	10...	yes
2.1...	50...	
2.1...	50...	
2.1...	50...	
2.1...	50...	

CAFO Emergency Winter Spreading

SnapPlus CAFO Emergency Spreading Suitability Report

Crop Year	2014
Reported For	Troubled 20130429
Printed	2014-08-21
Plan Completion/Update Date	2013-04-11
SnapPlus Version 14.0 built on 2014-08-04 13:32	
Z:\Downloads\Testing Database.snapDb	

Prepared for:
 Troubled 20130429
 attn: Dub Trouble
 Somewhere
 2325 Somewhere Hwy
 Somewhere, 00000-0000

This report displays the maximum rate allowed and a simulated winter acute loss index value when liquid manure is applied for each field in a WPDES permitted farm in a crop year. For fields with 0 - 2% slopes, the simulated value is calculated with an application volume of 7000 gallons per acre per winter season and for fields with 2-6% slopes, the application rate used is 3500 gallons per acre.

Crop Year	Farm Name	Subfarm Name	Field Name	Source Name	Max Rate	Acute Winter PI with Maximum Rate
2014	Troubled 20130429		1	Dairy Liquid	7000	1.9
2014	Troubled 20130429		2	Dairy Liquid	App Not Allowed	Not Suitable
2014	Troubled 20130429		5	Dairy Liquid	3500	1.5
2014	Troubled 20130429		6	Dairy Liquid	App Not Allowed	Not Suitable
2014	Troubled 20130429		7	Dairy Liquid	3500	0.3
2014	Troubled 20130429		8	Dairy Liquid	7000	3.0
2014	Troubled 20130429		9	Dairy Liquid	7000	0.3
2014	Troubled 20130429		Fall N Restrictions Fertilizer	Dairy Liquid	7000	1.6

Max winter rate

Soils details



SnapPlus
About SnapPlus
Meet the Team
Presentations
Contact Us
Downloads

590 or CAFO, for
wrp restrictions

How to
Users Manual
Training Opportunities
Nutrient Management
Resources
Soil Series and Soil Map
Units
Maps
Help

Soil Series and Soil Map Units List

Map Units within a soil series may differ with regard to soil drainage class, available water capacity, and/or depth to bedrock. Each map unit in a soil series was evaluated individually to place it into soil group and soil yield potential categories. There are soil series where not every map unit meets the criteria to be placed in the same soil group. For example, some map units may be in group L, while others are in group O. In addition, for some soil series, not every map unit meets the criteria to be placed in the same soil yield potential category. When differences in soil group or soil yield potential exist, the interpretation for soil yield potential. When differences in soil group or soil yield potential exist, the interpretation for soil yield potential. When differences in soil group or soil yield potential exist, the interpretation for soil yield potential. When differences in soil group or soil yield potential exist, the interpretation for soil yield potential.

Details on yield
potential,
drainage, etc

The USDA-NRCS launched the [NCSS Web Soil Survey](#) to provide access

Select County to view Soils data (based on A2809 published in November 2012)

County:

Columbia

☐ 590 Only ☒ 590 + CAFO

County	Soil MU	Soil Series	Slope	Soil Group	Yield Potential	DrainageClassCode	AWCCode	Drainage Class	Restriction Code
Columbia	Ad	ADRIAN	1	O	H	VP	VH	Very poorly drained	wp
Columbia	ATA	ATTERBERRY	1	L	H	SP	H	Somewhat poorly drained	w
Columbia	AtB	ATTERBERRY	4	L	H	SP	H	Somewhat poorly drained	w
Columbia	Wye	WYOMING	3-5	L	H	VP	H	Very poorly drained	wp
Columbia	YaA	YAHARA	2	L	H	SP	H	Somewhat poorly drained	w

Download to CSV

Download per
county soils data

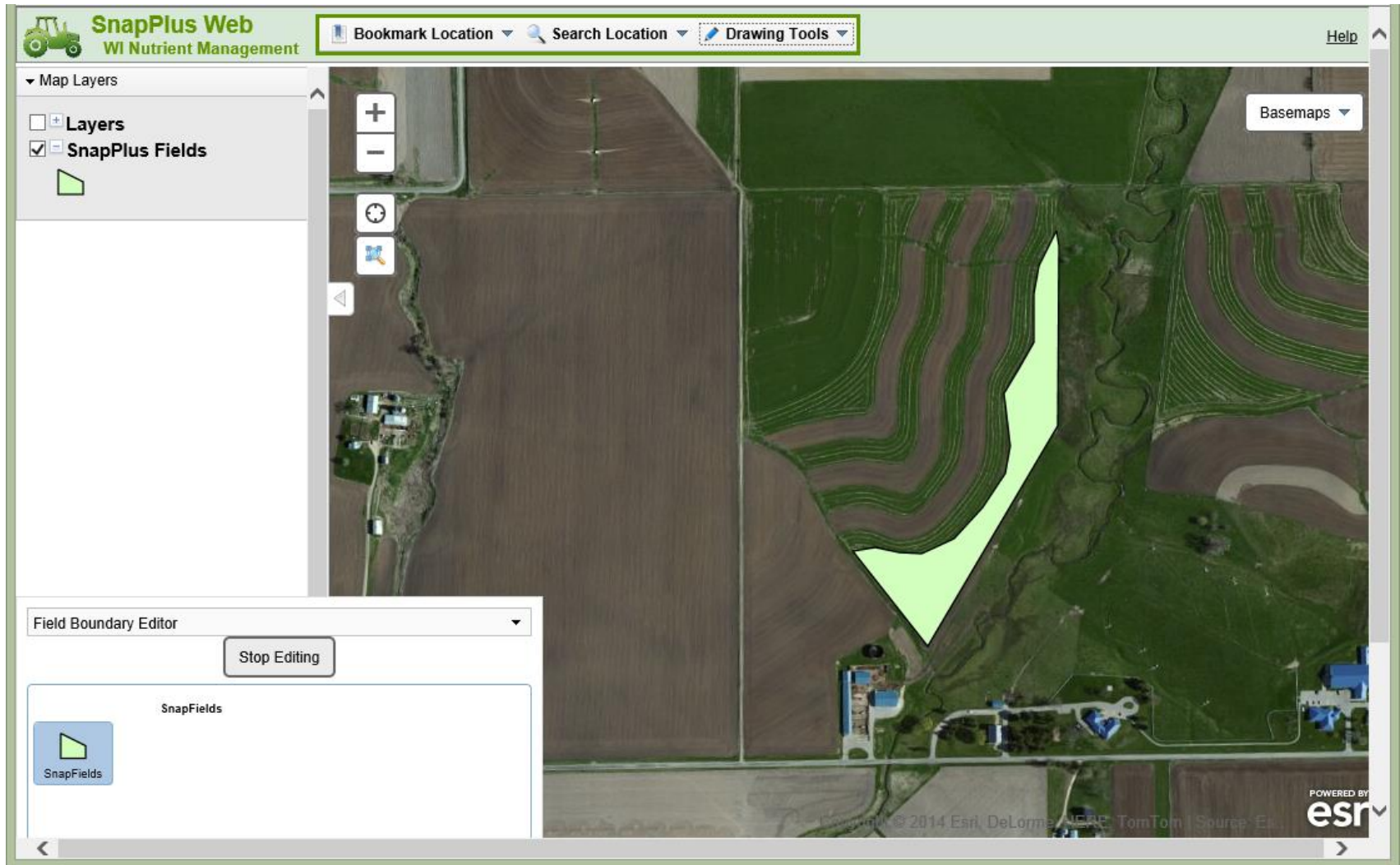
GIS: 14.x release

- Field boundaries, import shape files, soil determination
- Field restrictions
- Export map data to PDF, shape files, Excel
- Reports as Maps
- Internet connection + Windows
- Uses ArcGIS Server

Target date: *January 2015*



Field boundaries



Geospatially determine soils

SnapPlus Web
WI Nutrient Management

Bookmark Location Search Location Drawing Tools Help

Map Layers

- ☐ Layers
- ☒ SnapPlus Fields

Basemaps

Soil Map Unit	Ac	%	ES
TaB2	6.3	76%	0.059
TaC2	1.1	13%	0.091
WoB	0.9	11%	NA
Total	8.3	100%	

Field Boundary Editor

Stop Editing

SnapFields

Critical Soil: TaC2
Predominant Soil: TaB2
OK? Y

POWERED BY
esri

Security on the Web

File View Tools Help

Sub-Farm: Show all fields. * Field: 10 Farm name: Little Farm.snapDb
Group: Show all fields. Location: E:\Projects\SnapPlusV2\trunk\Planning

Farm Fields Soil Tests Nutrients Cropping Daily Log Reports

Fields Sub-Farms Groups

Right-click on column headers for single or multi-cell editing of selected cells.

Add Field Delete Field Total Acres: 55.1 Field Count: 5

Fields Map Below

Go to soil and restriction maps website
Restriction definitions What is Tiled?

Login to SnapPlus Web

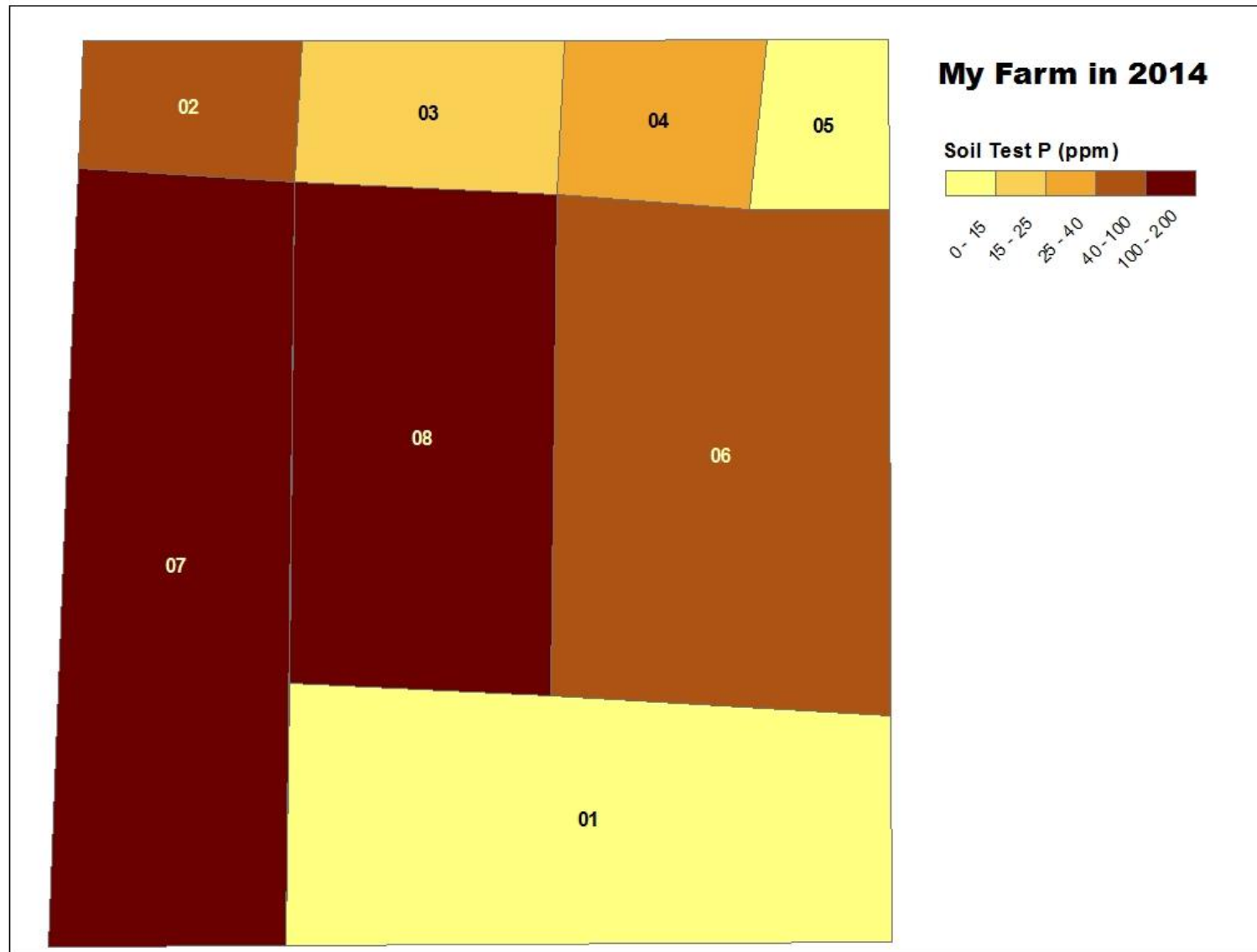
Username: fred Password: ***** Login

ALL	Field Name (edit:dbl-click)	A c t i v e	Soil	Distance to Terrenia Water (ft)	Re striction features	T i l e d ?	Field notes
▶	10	✓		Mi...		<input type="checkbox"/>	
	11	✓		Mi...		<input type="checkbox"/>	
	12	✓		Mi...		<input type="checkbox"/>	
	27	✓		Mi...		<input type="checkbox"/>	
	9	✓		Mi...		<input type="checkbox"/>	

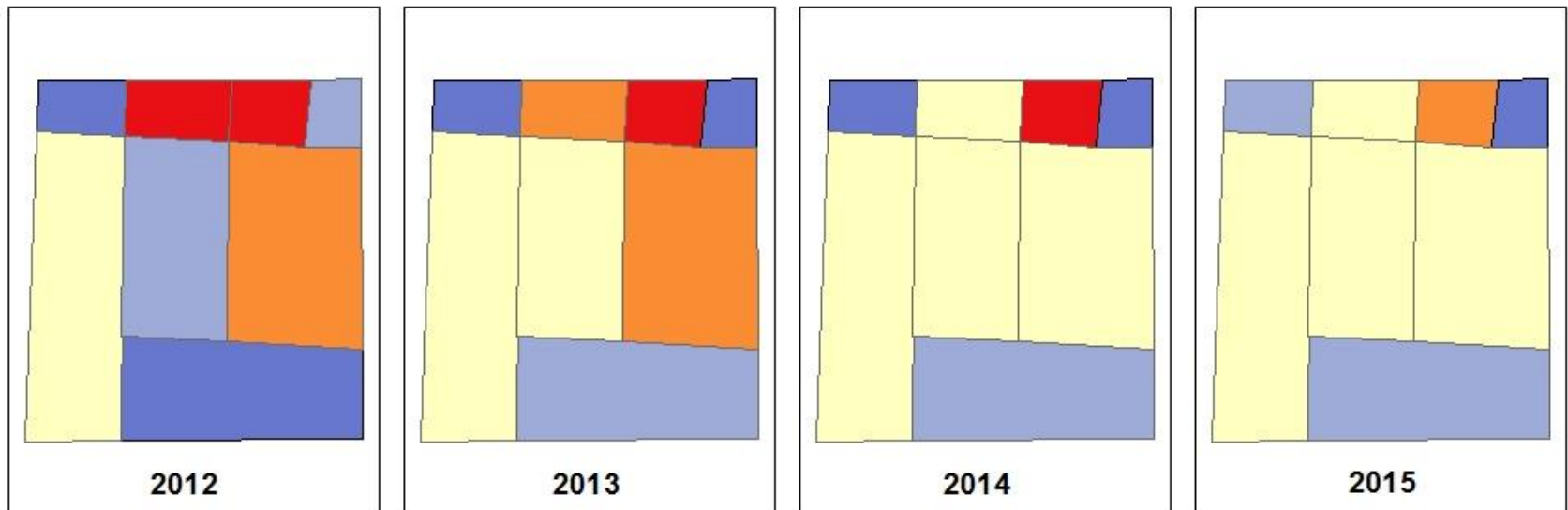
Maps as Reports

- ☐ Soil Test P
- ☐ Spreading plan
- ☐ P-K balance year by year
- ☐ N-P-K over/under year by year
- ☐ Crops year by year
- ☐ Show compliance

Soil Test P



P205 Balance year by year



P205 Balance

